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## 1 Routine/Function Prologues

### 1.0.1 subroutine interp\_agrmet\_lw.F90 (Source File: interp\_agrmet\_lw.F90)

Opens, reads, and interpolates AGRMET longwave radiation  
 GRIB IPOLATES UTILITY TO INTERPOLATE DATA FOR NH AND SH IN RT-  
 NEPH (512X512) POLAR STEREOGRAPHIC GRIDS TO MERGED GLOBAL DATA  
 IN GLDAS-SPECIFIED LAT/LON GRIDS;

#### REVISION HISTORY:

26 Jun 2001: Urszula Jambor; Initial code, based on Jesse Meng's  
 RTNEPH2LATLON.F code.  
 08 Feb 2002: Urszula Jambor; Modified declarations of arrays  
 dependant on domain & resolution to allocatable.  
 Pass in values for latmax.  
 11 Dec 2002: Urszula Jambor; Added 1/2 & 1 degree resolution GDS arrays

#### INTERFACE:

```
subroutine interp_agrmet_lw( pdata1, outdata, ferror )
```

#### USES:

```
use lisdrv_module,only : lis,gindex
use agrmetdomain_module, only : rlat,rlon,w11,w12,w21,w22,n11,n12,n21,n22, mi
implicit none

integer, parameter :: nagrc = 1440, nagrr=600
```

#### ARGUMENTS:

```
real :: pdata1(nagrc, nagrr)
real :: outdata(lis%d%ngrid) !output array matching grid(c,r)
integer :: ferror           !set to zero if error found
```

#### CONTENTS:

```
!-----
! READ INPUT DATA
!-----
allocate(pdata(mi))
allocate(lo1(lis%d%lnc*lis%d%lnr))
allocate(ldata1(lis%d%lnc*lis%d%lnr))
if (ferror == 0) then
  do i=1,lis%d%ngrid
    outdata(i) = lis%d%udef
  end do
else
  ferror = 1
  ibi = 1
  count = 0
```

```
li1 = .false.
do j=1,nagrr
  do i=1,nagrc
    pdata(count+i) = pdata1(i,j)
  enddo
  count = count+nagrc
enddo
do i=1,mi
  if(pdata(i).eq.-9999) then
    li1(i) = .false.
  else
    li1(i) = .true.
  endif
enddo
kgdso = 0
kgdso = lis%d%kgds
call polates0(kgdso,ibi,li1,pdata,ibo,lo1,lidata1,mi,&
  rlat,rlon,w11,w12,w21,w22,n11,n12,n21,n22,iret)

if(iret .NE. 0) then
  print*, "IPOLATES ERROR!! PROGRAM STOP!!"
  call exit(iret)
end if
!-----
! COMBINE LDATA1 AND LDATA2 INTO LDATA
!-----
count = 0
do j=1,lis%d%lnr
  do i=1,lis%d%lnc
    if(gindex(i,j).ne. -1) then
      outdata(gindex(i,j)) = ldata1(i+count)
    endif
  enddo
  count = count+lis%d%lnc
enddo
endif
deallocate(pdata)
deallocate(lo1)
deallocate(lidata1)
```